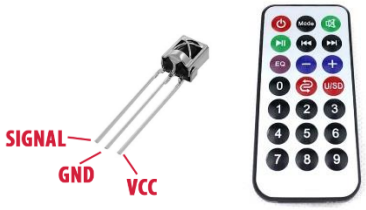
BatLab Basic Project Kit – Infrared Receiver and Remote



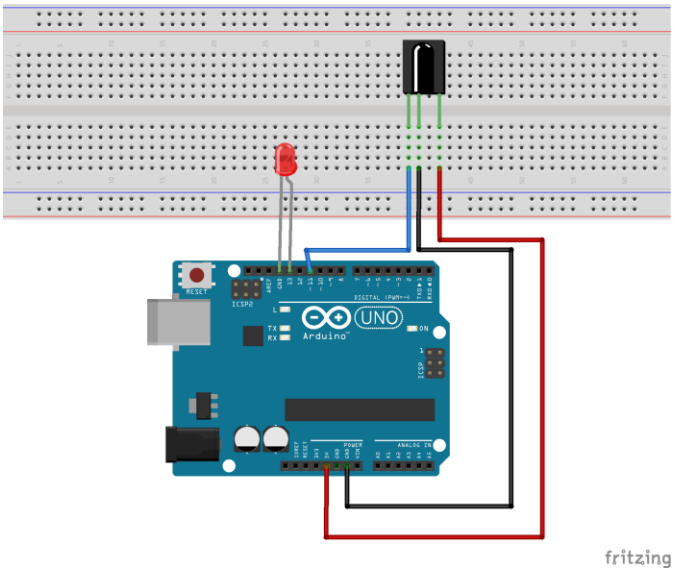
HOW IT WORKS

Infrared (IR) remote controls, such as those that control TVs, DVD players, stereos, cable boxes, etc., send a series of binary pulse codes using infrared light. This is accomplished by the logic inside the remote turning on and off a transmitter IR LED at a set frequency (typically in the tens of thousands of times per second) and with a set coding scheme (protocol). The IR receiver module in the device to be controlled must be tuned to the same carrier frequency as the transmitter and understand the protocol of the data being sent. Additionally, IR transmission/reception only works for line of sight (i.e., the remote has to be pointed at the receiver). The IR transmitting beam will spread, but it is strongest (has more energy) towards the center of the beam, similar to a flashlight. We can't see the beam with our eyes, but mobile phone cameras can. To see if your remote is transmitting, point it directly at your mobile phone camera and press a button – you should see a quick flicker of light at the remote's emitter lens.

PARTS

- Arduino Uno
- IR Receiver VS1838B
- LED, any color
- Any IR remote
- Breadboard & jumper wires

CIRCUIT



WIRING NOTE

You can put the LED directly into the Arduino digital pin 13 and GND (there is already a resistor on pin 13 only!). Just be sure to put the longer lead (the anode, or positive terminal) in pin 13. If you put it in backwards it will not work. All diodes (including LEDs) are polarized, meaning that the current only goes one way.

For code and instructions, go to this tutorial on Instructables:

http://www.instructables.com/id/The-Easiest-Way-to-Use-Any-IR-Remote-with-Ardiuno/

Try it with the remote in the kit, then try any other remote you have. You will now know the "secret" codes on your remotes!